

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims.

Listing of Claims:

1. **(Currently amended)** A repressible insect gene expression system, comprising a first element and a second element on the same construct, wherein the first element comprises at least one transcriptional control factor gene to be expressed and at least one first promoter therefor, the expression of the at least one transcriptional control factor gene being under the control of the said at least one first promoter; and,

wherein the second element comprises a lethal gene of interest to be expressed and at least one second promoter therefore, the expression of the gene of interest being under the control of said at least one second promoter, wherein the lethal gene substantially reduces fitness when de-repressed in an insect,

wherein an expression product of the at least one transcriptional control factor gene to be expressed of said first element serves as a positive transcriptional control factor for both:

- (i) the at least one first promoter in said first element; and
- (ii) the at least one second promoter in said second element,

wherein the at least one first promoter and the at least one second promoter are substantially inactive in the absence of the positive transcriptional control factor

and whereby ~~said product,~~ or the expression product of the transcriptional control factor gene is repressible.

2. **(Currently amended)** The system according to claim 1, wherein a first enhancer is associated with the first promoter, the transcriptional control factor gene product serving to enhance activity of the first promoter *via* the first enhancer.

3. **(Previously amended)** The system according to claim 2, wherein the control factor is the tTA gene product or a repressible analogue thereof, and wherein one or

more tetO operator units is operably linked with the first promoter and is the first enhancer, tTA or its analogue serving to enhance activity of the first promoter *via* tetO.

4. **(Previously amended)** The system according to claim 3, in which the gene encodes the tTAV or tTAF product.

5. **(Previously amended)** The system according to claim 1, wherein the gene is modified to at least partially follow codon usage in a species in which the system is for use.

6. **(Cancelled)**

7. **(Previously amended)** The system according to claim 1, wherein the first and/or second promoter is a minimal promoter.

8. **(Previously amended)** The system according to claim 7, wherein the first and/or second promoter is selected from: hsp70, a P minimal promoter, a CMV minimal promoter, an Act5C-based minimal promoter, a BmA3 promoter fragment, an Adh core promoter, and anAct5C minimal promoter, or combinations thereof.

9. **(Previously amended)** The system according to claim 1, wherein the first and/or second promoter is derived from, or is a fragment of, CMV or Hsp70.

10-11. **(Cancelled)**

12. **(Currently amended)** The system according to claim 44, 1, wherein the lethal gene is a dominant lethal.

13. **(Currently amended)** A system according to claim 44, 1, wherein the lethal gene and the positive control are the same.

14. **(Previously amended)** The system according to claim 13, wherein the gene is tTA or an analogue thereof.

15. **(Cancelled)**

16. **(Currently amended)** The system according to claim ~~40~~, 1, wherein the reduced fitness is a high mortality rate.

17. **(Currently amended)** The system according to claim 1, wherein expression of the positive transcriptional control gene is selective.

18. **(Previously amended)** The system according to claim 17, wherein expression of the gene is determined by sex.

19. **(Previously amended)** The system according to claim 18, comprising a *doublesex*, *transformer* or sex-specific lethal sequence.

20. **(Previously amended)** The system according to claim 1, wherein an effector gene is operably linked with at least one said promoter.

21. **(Previously amended)** The system according to claim 20, wherein the effector gene is a dominant lethal gene.

22. **(Cancelled)**

23. **(Previously amended)** The system according to claim 20, wherein activation of a promoter to which the effector gene is operably linked leads to a selective effect *via* a transcription or translation product of DNA under the control of the promoter.

24. **(Previously amended)** The system according to claim 17, wherein selection is species specific.

25. **(Previously amended)** The system according to claim 17, wherein selection is developmental stage specific.

26. **(Cancelled)**

27. **(Previously amended)** The system according to claim ~~26~~, 1, which is at least two cistrons, said cistrons being linked to an enhancer under the control of the positive control gene.

28. **(Cancelled)**

29. **(Previously amended)** The system according to claim 1, bounded by insulator elements.

30. **(Previously amended)** The system according to claim 29, wherein the insulators are non-identical insulators.

31. **(Withdrawn, previously amended)** The system of claim 1, which is pLA513 as identified by SEQ ID NO. 16.

32. **(Withdrawn, previously amended)** The system of claim 1, which is JY2004-tTA as identified by SEQ ID NO. 14.

33. **(Previously amended)** A vector comprising the system of claim 1.

34. **(Previously amended)** The vector according to claim 33, further comprising an expression marker.

35. **(Previously amended)** The vector according to claim 34, wherein the expression marker is a fluorescent protein or resistance marker.

36-43. **(Cancelled)**

44. **(Withdrawn)** The system of claim 17, wherein the expression of the gene is stage specific or tissue specific.

45. **(Withdrawn)** The system of claim 44, wherein the expression of the gene is embryo-specific.

46. **(Withdrawn)** The system of claim 45, wherein the expression of the gene is lethal in an embryo.

47. **(Previously presented)** The system of claim 3, wherein a second enhancer is associated with the second promoter and is the same as the first enhancer associated with the first promoter, the control factor gene product also serving to enhance activity of the second promoter via the second enhancer.

48. **(Previously presented)** The system according to claim 47, wherein the control factor is the tTA gene product or an analogue thereof, and wherein one or more tetO operator units is operably linked with the second promoter and is the second enhancer, tTA or its analogue serving to enhance activity of the second promoter *via* tetO.

49. **(Currently amended)** A repressible insect gene expression system ~~(suitable)~~ for use in a method of insect population control, comprising a first element and a second element on the same construct, wherein

the first element comprises at least one control factor gene to be expressed and at least one first promoter therefor, the expression of said at least one control factor gene being under the control of said at least one first promoter; and,

wherein the second element comprises a gene of interest to be expressed and at least one second promoter therefor, the expression of said gene of interest being under the control of said at least one second promoter;

wherein an expression product, of the control factor gene to be expressed of said first element, serves as a positive transcriptional control factor for both the at least one first promoter in said first element and the at least one second promoter in said second element,

with the result that said product of the control factor gene, or the expression of said product of the control factor gene, is repressible.

50. (Currently presented) A repressible insect gene expression system suitable for use in a method of insect population control, comprising a first element and a second element on the same construct, wherein

the first element comprises least one control factor gene to be expressed and at least one first promoter therefor, the expression of said at least one control factor gene being under the control of said at least one first promoter; and,

wherein the second element comprises a gene of interest to be expressed and at least one second promoter therefor, the expression of said gene of interest being under the control of said at least one second promoter;

wherein an expression product, of the control factor gene to be expressed of said first element, serves as a positive transcriptional control factor for both the at least one first promoter in said first element and the at least one second promoter in said second element,

and whereby said product of the control factor gene, or the expression of said product of the control factor gene, is repressible;

an enhancer being associated with at least said first promoter, the control factor gene product serving to enhance activity of said first promoter via said enhancer; and

wherein the control factor is the tTA gene product or a repressible analogue thereof, and wherein one or more tetO operator units is operably linked with at least said first promoter and is the enhancer; tTA or its analogue serving to enhance activity of said at least first promoter via tetO.

51. **(Previously presented)** The system of claim 50, where in tTA or its analogue serves to enhance activity of said at least first promoter and said second promoter via tetO when de-repressed.

52. **(Currently amended)** A repressible insect gene expression system (~~suitable~~) for use in a method of insect population control, comprising a first element and a second element on the same construct,

wherein the first element comprises least one control factor gene to be expressed and at least one first promoter therefor, the expression of said at least one control factor gene being under the control of said at least one first promoter; and,

wherein the second element comprises a gene of interest to be expressed and at least one second promoter therefor, the expression of said gene of interest being under the control of said at least one second promoter;

wherein an expression product, of the control factor gene to be expressed of said first element, serves as a positive transcriptional control factor for both the at least one first promoter in said first element and the at least one second promoter in said second element,

with the result that said product of the control factor gene, or the expression of said product of the control factor gene, is repressible, and the system, when de-repressed, has a fatal effect on insect embryos or larvae, but not adult insects.